



Elser's Challenge

by Arya Akhavan (August 2012)

Angles for R.I. = 1.620

85 + 20 girdles = 105 facets

2-fold, mirror-image symmetry

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$L/W = 2.041$ $T/W = 0.864$ $U/W = 0.310$

$P/W = 0.449$ $C/W = 0.156$

$Vol./W^3 = 0.493$

PAVILION

P1	40.15°	02-46-50-94	Cut to centrepoint.
P2	40.95°	01-47-49-95	Meet at centrepoint.
G1	90.00°	96-48	Set stone width.
P3	40.91°	03-45-51-93	Meet P1, P2, G1
G2	90.00°	03-45-51-93	Meet P1, P2, G1, P3
P4	41.35°	05-43-53-91	Meet P1, P3
G3	90.00°	05-43-53-91	Cut level girdle.
P5	39.38°	08-40-56-88	Meet P1, P3, P4
G4	90.00°	10-38-58-86	Meet P4, G3, P5
P6	41.86°	10-38-58-86	Cut level girdle.
P7	42.88°	18-30-66-78	Meet P5, P6
P8	43.25°	24-72	Meet P5, P6, P7
P9	43.60°	96-48	Level girdle.
G5	90.00°	18-30-66-78	Cut level girdle.
G6	90.00°	24-72	Cut level girdle.

CROWN

C1	29.39°	96-48	Set girdle width.
C2	23.49°	03-45-51-93	Level girdle.
C3	23.75°	05-43-53-91	Level girdle.
C4	23.75°	10-38-58-86	Level girdle.
C5	25.30°	18-30-66-78	Level girdle.
C6	25.81°	24-72	Level girdle.
C7	23.59°	01-47-49-95	Meet G1, G2, C1, C2
C8	23.01°	02-46-50-94	Meet G1, G2, C1, C2, C7
C9	22.83°	04-44-52-92	Meet G2, G3, C2, C3
C10	21.65°	08-40-56-88	Meet G3, G4, C3, C4; C4, C5, C6 ("cluster")
C11	23.12°	96-48	Meet C1, C7
C12	21.39°	03-45-51-93	Meet C2, C8, C9; C7, C11
C13	16.83°	07-41-55-89	Meet C3, C9, C10; cluster
C14	15.13°	05-43-53-91	Meet C12, C13, C14; C7, C8, C11, C12
C15	5.90°	24-72	Meet cluster
T	0.00°	Table	Meet C7, C8, C11, C12, C14; C13, C14, C15

Lisa was joking around with me about inability to use GemCAD, and issued a challenge of yield on this particular pink tourmaline. Hence, this pattern. Can be cut without changes from beryl to CZ (RI = 1.56 - 2.16). There's also a lot of flexibility in the pavilion and crown ratios, and good face-up/tilt brightness.

Suggested width = 6-9 mm

C:\Program Files (x86)\GemCAD\Designs (Mine)\Elser's Challenge.gem